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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/480,704	05/25/2012	David Lymberopoulos	SAFO/0012USP1	9598

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EXAMINER	
MCCALISTER, WILLIAM M	

ART UNIT	PAPER NUMBER
3753	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 13/480,704	Applicant(s) LYMBEROPOULOS ET AL.	
	Examiner WILLIAM MCCALISTER	Art Unit 3753	AIA (First Inventor to File) Status No

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/29/14.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

- 5) ☒ Claim(s) 1-21 is/are pending in the application.
5a) Of the above claim(s) 4, 9, 13 and 17 is/are withdrawn from consideration.
- 6) ☐ Claim(s) ____ is/are allowed.
- 7) ☒ Claim(s) 1-3, 5-8, 10-12, 14-16 and 18-21 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☒ The drawing(s) filed on 5/25/12 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☐ All b) ☐ Some** c) ☐ None of the:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date 10/14/14, 12/29/14.
- 3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 4) ☐ Other: ____.

The present application is being examined under the pre-AIA first to invent provisions.

Claims 4, 9, 13 and 17 have been withdrawn. Claims 1-3, 5-8, 10-12, 14-16 and 18-21 will be treated on the merits.

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):

(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

The following is a quotation of 35 U.S.C. 112 (pre-AIA), second paragraph:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 5, 14 and 18 are rejected under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, or for pre-AIA the applicant regards as the invention. Claim 1 introduces a plurality of fluids (see the preambles and the bodies), and it cannot be determined to which of these fluids claims 3 and 5 refer back. Claim 12 similarly introduces a plurality of fluids, and it cannot be determined to which of these fluids claims 14 and 18 refer back.

Claim Rejections - 35 USC § 102

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1, 6, 7, 12, 15, 16 and 18 are rejected under pre-AIA 35 U.S.C. 102(b) as being anticipated by Wailes (US 3,776,249).

Wailes discloses:

1. A control system for controlling fluid flow through a flow line at a wellsite, the control system comprising:

a safety valve (11) having a gate (11 is a “gate valve”);

a valve actuator (16) configured to move the gate;

an electronic controller assembly (122) configured to receive a signal from a transducer (41) connected to the flow line, wherein the signal corresponds to a measured physical property (41 is a pressure transducer);

a valve assembly (111) in (indirect) communication with the controller assembly;

and

a fluid drive assembly (119, 121) in communication with the controller assembly, wherein the controller assembly is operable to actuate the fluid drive assembly to supply fluid to the valve actuator to move the gate to a first position, and wherein the controller assembly is operable to actuate the valve assembly to actuate the valve actuator to move the gate to a second position (the controller controls the position of the safety valve by controlling the position of 111, in turn by controlling the positions of 119 and 121).

6. The system of claim 1, further comprising a power source for supplying power to the controller assembly, the valve assembly, and the fluid drive assembly (a power source is inherent).

7. The system of claim 1, wherein the first position is a closed position and the second position is an open position (both positions are obtained via the operation of 111, 119 and 121).

12. A method for controlling fluid flow through a flow line at a wellsite, the method comprising:

providing a control system comprising a safety valve (11) having a gate, a valve actuator (16) configured to move the gate, a housing (13), an electronic controller assembly (122), a fluid drive assembly (119 and 121; alternatively 112), and a valve assembly (111);

supplying fluid to the valve actuator using the fluid drive assembly to actuate the valve actuator to move the gate into a first position (the closed position described at col. 7 lines 22-62);

monitoring a physical property in the flow line using the controller assembly (via 41); and

actuating the valve assembly using the controller assembly to actuate the valve actuator to move the gate into a second position *based upon* a comparison of the

monitored physical property to a predetermined condition (the open position described at described at col. 7 lines 22-62; note that the term “based upon” is seen as broad enough to read on the relationship disclosed at col. 5 line 65 to col. 6 line 1).

15. The method of claim 12, further comprising measuring the physical property using a transducer (41) configured to communicate a signal corresponding to the measured physical property to the controller assembly.

16. The method of claim 12, wherein the first position is a closed position and the second position is an open position (as mapped above).

18. The method of claim 12, wherein the fluid is a hydraulic fluid, and wherein the fluid drive assembly (112) is a pump.

Claim Rejections - 35 USC § 103

The following is a quotation of pre-AIA 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under pre-AIA 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under pre-AIA 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of pre-AIA 35 U.S.C. 103(c) and potential pre-AIA 35 U.S.C. 102(e), (f) or (g) prior art under pre-AIA 35 U.S.C. 103(a).

Claims 1-3, 5-8, 10-12, 14-16 and 18-21 are rejected under pre-AIA 35 U.S.C. 103(a) as being unpatentable over Vinegar (US 2003/0051881) in view of Cotham (US 5,335,730).

Regarding claim 1, Vinegar discloses a control system for controlling fluid flow through a flow line at a wellsite, the control system comprising:

- a safety valve (12) having a gate (see paragraph 0023);
- a valve actuator (84) configured to move the gate;
- an electronic controller assembly (90);
- a valve assembly (82) in communication with the controller assembly; and
- a fluid drive assembly (76, 78) in communication with the controller assembly,

wherein the controller assembly is operable to actuate the fluid drive assembly to supply fluid to the valve actuator to move the gate to a first position (closed), and wherein the controller assembly is operable to actuate the valve assembly to actuate the valve actuator to move the gate to a second position (open) (paragraph 0043).

Vinegar does not disclose the controller to be configured to receive a signal from a transducer connected to the flow line, wherein the signal corresponds to a measured physical property. Cotham teaches that it was known in the art at the time of invention to protect against over- and under-pressures by configuring a similar controller (114) to receive a signal from a transducer (135) connected to a similar flow line, wherein the signal corresponds to a measured physical property (135 is a pressure transducer) (see col. 8 lines 6-25). To protect against over- and under-pressure in Vinegar's system, it would have been obvious to configure the controller to receive a signal from a transducer connected to the flow line, wherein the signal corresponds to a measured physical property, as taught by Cotham.

Regarding claim 2, Vinegar discloses the system of claim 1, further comprising a housing (72 and 28 together form a housing) for supporting the controller assembly, the valve assembly, and the fluid drive assembly.

Regarding claim 3, Vinegar discloses the system of claim 2, wherein the fluid is supplied from a reservoir disposed outside of the housing (as understood, during assembly, or during filling of the system with fluid).

Regarding claim 5, Vinegar discloses the system of claim 1, wherein the fluid drive assembly (76, 78) is a pump and the fluid is a hydraulic fluid (mentioned throughout the specification).

Regarding claim 6, Vinegar discloses the system of claim 1, further comprising a power source for supplying power to the controller assembly, the valve assembly, and the fluid drive assembly (a power source is inherent).

Regarding claim 7, Vinegar discloses the system of claim 1, wherein the first position is a closed position and the second position is an open position (as mapped in the analysis above).

Regarding claim 8, Vinegar discloses the system of claim 1, further comprising a housing (72, 26) for supporting the fluid drive assembly. Vinegar does not disclose a filter as claimed. Cotham teaches that it was known to use a filter ("D" at the bottom of FIG 6) attached to a similar housing for filtering fluid entering the housing by a similar fluid drive assembly. To remove debris from Vinegar's fluid, it would have been obvious to use a filter as claimed.

Regarding claim 10, Vinegar discloses the claimed communications capability of the controller, via the presence of modems 89 and 48. Alternatively, should it be determined that Vinegar does not disclose the claimed communication capability, then consider that it was well-known in the art at the time of invention to communicate sensor readings to a master control panel so that users can monitor the sensed parameters, and it would have been obvious to create such a capability in Vinegar's controller assembly so that users of Vinegar's system can remotely monitor Vinegar's sensed pressure.

Regarding claim 11, Vinegar does not disclose the controller to be a PLC. Cotham teaches that PLCs were known in the art at the time of invention (col. 8 line 49), and it would have been obvious to embody Vinegar's controller as a PLC in order to increase its adaptability (via programmability). Vinegar discloses the safety valve to release fluid for returning it to the second position (the safety valve actuator both receives and expels fluid when it moves in either direction).

Regarding claim 12, Vinegar discloses method for controlling fluid flow through a flow line at a wellsite, the method comprising:

providing a control system comprising a safety valve (74) having a gate, a valve actuator (84) configured to move the gate, a housing (26, 72), an electronic controller assembly (90), a fluid drive assembly (76, 78), and a valve assembly (82);

supplying fluid to the valve actuator using the fluid drive assembly to actuate the valve actuator to move the gate into a first position (paragraph 0043).

Vinegar does not disclose monitoring a physical property in the flow line using the controller assembly and actuating the valve assembly to move the gate into a second position *based upon* a comparison of the monitored physical property to a predetermined condition. Cotham teaches that it was known in the art to monitor a physical property in the flow line using the controller assembly and actuating the valve assembly to move the gate into a second position *based upon* a comparison of the monitored physical property to a predetermined condition (col. 8 lines 6-26). To void extremely high and low pressures in Vinegar's pipeline, it would have been obvious to monitor a physical property in the flow line using the controller assembly and actuating the valve assembly to move the gate into a second position *based upon* a comparison of the monitored physical property to a predetermined condition, as taught by Cotham.

Regarding claims 14-16, 18 and 19, see the analyses of the corresponding apparatus claims set forth above.

Regarding claim 20, Vinegar discloses actuating the safety valve by communicating a signal from a remote computer system to the controller assembly (paragraph 0043, 2nd sentence).

Regarding claim 21, the claimed method would necessarily be performed during the normal and usual operation of the device set forth in the obviousness analysis above (where the claimed method steps are seen as clearly corresponding to the recited features and capabilities of the apparatus as mapped above).

Response to Arguments

Applicant's arguments regarding the previous 112 rejections and drawing objections are persuasive and these rejections are withdrawn. Applicant's arguments with respect to the previous 102 and 103 rejections have been considered but are moot because the arguments do not apply to any of the references being used in the current rejection. Vinegar, Cotham, and Wailes disclose the claimed features (i.e., the gate and fluid drive assembly).

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **William McCalister**, whose telephone number **571-270-1869**. The examiner can normally be reached on Monday-Friday (7:00AM-5:30PM EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisors can be reached by phone. Craig Schneider can be reached at 571-272-3607 or John Fristoe can be reached at 571-272-4926. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

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/WILLIAM MCCALISTER/
Primary Examiner, Art Unit 3753

3/19/15